CLAIMS

WHAT IS CLAIMED IS:

1. An isolated nucleic acid molecule comprising a polynucleotide having a nucleotide sequence at least 95.0% identical to a sequence selected from the group consisting of:

(a) a polynucleotide encoding a polypeptide of SEQ ID NO:2 or the cDNA sequence included in ATCC Deposit No: PTA-3161, having G-protein coupled receptor activity;

(b) a polynucleotide which is a variant of SEQ ID NO:1;

(c) a polynucleotide which is an allelic variant of SEQ ID NO:1;

(d) an isolated polynucleotide comprising nucleotides 540 to 1523 of SEQ ID NO:1, wherein said nucleotides encode a polypeptide corresponding to amino acids 2 to 329 of SEQ ID NO:2 minus the start codon;

(e) an isolated polynucleotide comprising nucleotides 537 to 1523 of SEQ ID NO:1, wherein said nucleotides encode a polypeptide corresponding to amino acids 1 to 329 of SEQ ID NO:2 including the start codon;

(f) a polynucleotide which represents the complimentary sequence (antisense) of SEQ ID NO:1; and

(g) a polynucleotide capable of hybridizing under stringent conditions to any one of the polynucleotides specified in (a)-(f), wherein said polynucleotide does not hybridize under stringent conditions to a nucleic acid molecule having a nucleotide sequence of only A residues or of only T residues.

2. The isolated nucleic acid molecule of claim 1, wherein the polynucleotide fragment comprises a nucleotide sequence encoding a human G-protein coupled receptor protein.

3. A recombinant vector comprising the isolated nucleic acid molecule of claim 1.

4. A recombinant host cell comprising the vector sequences of claim 3.

5. An isolated polypeptide comprising an amino acid sequence at least 95.0% identical to a sequence selected from the group consisting of:

(a) a full length protein of SEQ ID NO:2 or the encoded sequence included in ATCC Deposit No: PTA-3161;

(b) a variant of SEQ ID NO:2;

(c) an allelic variant of SEQ ID NO:2;

(d) a polypeptide comprising amino acids 2 to 329 of SEQ ID NO:2, wherein said amino acids 2 to 329 comprise a polypeptide of SEQ ID NO:2 minus the start methionine;

(e) a polypeptide comprising amino acids 1 to 329 of SEQ ID NO:2; and

(f) a polypeptide encoded by the cDNA contained in ATCC Deposit No. PTA-3161.

6. An isolated antibody that binds specifically to the isolated polypeptide of claim 5.

7. A recombinant host cell that expresses the isolated polypeptide of claim 5.

8. A method of making an isolated polypeptide comprising:

(a) culturing the recombinant host cell of claim 7 under conditions such that said polypeptide is expressed; and

(b) recovering said polypeptide.

9. The polypeptide produced by claim 8.

10. A method for preventing, treating, or ameliorating a medical condition, comprising the step of administering to a mammalian subject a therapeutically effective amount of the polypeptide of claim 5 or the polynucleotide of claim 1.

11. A method of diagnosing a pathological condition or a susceptibility to a pathological condition in a subject comprising:

(a) determining the presence or absence of a mutation in the polynucleotide of claim 1; and

(b) diagnosing a pathological condition or a susceptibility to a pathological condition based on the presence or absence of said mutation.

12. A method of diagnosing a pathological condition or a susceptibility to a pathological condition in a subject comprising:

(a) determining the presence or amount of expression of the polypeptide of claim 5 in a biological sample; and

(b) diagnosing a pathological condition or a susceptibility to a pathological condition based on the presence or amount of expression of the polypeptide.

13. An isolated nucleic acid molecule consisting of a polynucleotide having a nucleotide sequence selected from the group consisting of:

(a) a polynucleotide encoding a polypeptide of SEQ ID NO:2;

(b) an isolated polynucleotide consisting of nucleotides 540 to 1523 of SEQ ID NO:1, wherein said nucleotides encode a polypeptide corresponding to amino acids 2 to 329 of SEQ ID NO:2 minus the start codon;

(c) an isolated polynucleotide consisting of nucleotides 537 to 1523 of SEQ ID NO:1, wherein said nucleotides encode a polypeptide corresponding to amino acids 2 to 329 of SEQ ID NO:2 including the start codon;

(d) a polynucleotide encoding the HGPRBMY25 polypeptide encoded by the cDNA clone contained in ATCC Deposit No. PTA-3161; and

(e) a polynucleotide which represents the complimentary sequence (antisense) of SEQ ID NO:41.

14. The isolated nucleic acid molecule of claim 13, wherein the polynucleotide comprises a nucleotide sequence encoding a human G-protein coupled receptor protein.

15. A recombinant vector comprising the isolated nucleic acid molecule of claim 14.

16. A recombinant host cell comprising the recombinant vector of claim 15.

17. An isolated polypeptide consisting of an amino acid sequence selected from the group consisting of:

(a) a full length protein of SEQ ID NO:2;

(b) a polypeptide corresponding to amino acids 2 to 329 of SEQ ID NO:2, wherein said amino acids 2 to 329 comprise a polypeptide of SEQ ID NO:2 minus the start methionine;

(c) a polypeptide corresponding to amino acids 1 to 329 of SEQ ID NO:2; and

(d) a polypeptide encoded by the cDNA contained in ATCC Deposit No. PTA-3161.

18. The method for preventing, treating, or ameliorating a medical condition of claim 10, wherein the medical condition is selected from the group

consisting of an immune condition; an inflammatory disease; an inflammatory disease wherein G-protein coupled receptors, either directly or indirectly, are involved in disease progression; a reproductive disorder; a female reproductive disorder; a male reproductive disorder; a neural disorder; a pulmonary disorder; and a cancer.

19. A cell comprising the polypeptide of claim 9 and a member selected from the group consisting of NFAT/CRE, and NFAT G alpha 15.

20. A method of screening for candidate compounds capable of modulating activity of a G-protein coupled receptor-encoding polypeptide, comprising:

(a) contacting a test compound with the cell according to claim 19; and

(b) selecting as candidate modulating compounds those test compounds that modulate activity of the G-protein coupled receptor polypeptide.

21. A method for preventing, treating, or ameliorating a medical condition, comprising the step of administering to a mammalian subject a therapeutically effective amount of the antibody of claim 6, wherein the medical condition is selected from the group consisting of an immune condition; an inflammatory disease; an inflammatory disease wherein G-protein coupled receptors, either directly or indirectly, are involved in disease progression; a reproductive disorder; a female reproductive disorder; a male reproductive disorder; a neural disorder; a pulmonary disorder; and a cancer.